Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-37. (Canceled)

38. (New) An electrode for use in an electrochemical cell comprising:

a first sheet comprising a hydrogen storage material; and

a second sheet separate from the first sheet, the second sheet comprising a high energy density metal that is configured to act as a hydrogen source for the hydrogen storage material on reaction with electrolyte in the cell.

39. (New) The electrode of claim 38, wherein the high energy density metal comprises Al, Zn, Mg, Fe, or alloys or combinations thereof.

40. (New) The electrode of claim 38, wherein the high energy density metal is mixed with polytetrafluoroethylene.

41. (New) The electrode of claim 38, wherein the high energy density metal is mixed with graphite.

42. (New) The electrode of claim 38, wherein the hydrogen storage material is an alloy selected from the group consisting of rare earth/misch alloys, zirconium alloys, titanium alloys, and mixtures of such alloys.

43. (New) The electrode of claim 38, wherein the first sheet comprises polytetrafluoroethylene mixed with the hydrogen storage material.

44. (New) The electrode of claim 38, wherein the first sheet comprises carbon mixed with the hydrogen storage material.

45. (New) The electrode of claim 38, wherein the hydrogen storage material is a metal hydride selected from the group consisting of AB_5, AB_2, AB and A_2B, where A is a Group IIb metal, transition metal, rare-earth metal, or metal of the actinide series, and B is a metal of the transition series.

46. (New) The electrode of claim 45, wherein:

AB_5 has hexagonal or orthorhombic structure and is $LaNi_5$ or $MmNi_5$, where Mm is a combination of La and other rare-earth elements;

AB_2 is $ZnMn_2$ with a Laves phase structure;

AB is TiFe with a CsCl structure; and

A_2B is Ti_2Ni with a complex structure.

47. (New) The electrode of claim 38, further comprising a hydrogen electrocatalyst.

48. (New) The electrode of claim 47, wherein the hydrogen electrocatalyst is a noble metal, Ni, Fe, Cr, or an alloy comprising at least one of these metals.

49. (New) The electrode of claim 47, wherein the hydrogen electrocatalyst is in the form of a pure powder deposited on a high surface area support material.

50. (New) The electrode of claim 49, wherein the high surface area support material is activated carbon or graphite.

51. (New) The electrode of claim 47, wherein the first sheet further comprises the hydrogen electrocatalyst.

52. (New) The electrode of claim 47, wherein the second sheet further comprises the hydrogen electrocatalyst.

53. (New) The electrode of claim 47, wherein the hydrogen electrocatalyst is provided in a third sheet separate from the first and second sheets.

54. (New) The electrode of claim 53, further comprising a mesh current collector pressed into one of the first, second, or third sheets.

55. (New) The electrode of claim 38, further comprising a current collector pressed into the first sheet.

56. (New) The electrode of claim 38, wherein the first and second sheets are coupled together by a resistor.

57. (New) The electrode of claim 38, further comprising a separator between the first sheet and the second sheet.

58. (New) The electrode of claim 38, wherein the electrode comprises:

an energy carrier layer comprising the first sheet;

a catalyst layer;

a hydrogen absorption layer comprising the second sheet; and

at least one of a mesh current collector and a mechanical support.

59. (New) The electrode of claim 38, wherein the high energy density metal is configured to act as an anode material.

60 (New) The electrode of Claim 38, wherein the high energy density metal is configured to prevent corrosion of the electrode.

61. (New) An electrochemical cell comprising:

an electrode comprising a first sheet including a hydrogen storage material and a second sheet separate from the first sheet, the second sheet including a high energy density metal that is configured to act as a hydrogen source for the hydrogen storage material on reaction with electrolyte in the cell.

62. (New) The electrochemical cell of claim 61, wherein the high energy density metal comprises Al, Zn, Mg, Fe, or alloys or combinations thereof.

63. (New) The electrochemical cell of claim 61, wherein the second layer further comprises at least one of polytetrafluoroethylene and graphite.

64. (New) The electrochemical cell of claim 61, wherein the hydrogen storage material is an alloy selected from the group consisting of rare earth/misch alloys, zirconium alloys, titanium alloys, and mixtures of such alloys.

65. (New) The electrochemical cell of claim 61, wherein the first sheet further comprises at least one of polytetrafluoroethylene and carbon.

66. (New) The electrochemical cell of claim 61, wherein the hydrogen storage material is a metal hydride selected from the group consisting of AB_5, AB_2, AB and A_2B, where A is a Group IIb metal, transition metal, rare-earth metal, or metal of the actinide series, and B is a metal of the transition series, wherein:

AB_5 has hexagonal or orthorhombic structure and is $LaNi_5$ or $MmNi_5$, where Mm is a combination of La and other rare-earth elements;

AB_2 is $ZnMn_2$ with a Laves phase structure;

AB is TiFe with a CsCl structure; and

A_2B is Ti_2Ni with a complex structure.

67. (New) The electrochemical cell of claim 61, further comprising a hydrogen electrocatalyst that is a noble metal, Ni, Fe, Cr, or an alloy comprising at least one of these metals.

68. (New) The electrochemical cell of claim 61, wherein the first sheet further comprises the hydrogen electrocatalyst.

69. (New) The electrochemical cell of claim 61, wherein the second sheet further comprises the hydrogen electrocatalyst.

70. (New) The electrochemical cell of claim 61, wherein the hydrogen electrocatalyst is provided in a third sheet separate from the first and second sheets.

71. (New) The electrochemical cell of claim 70, further comprising a current collector pressed into one of the first, second, or third sheets.

72. (New) The electrochemical cell of claim 61, further comprising a current collector pressed into the first sheet.

73. (New) The electrochemical cell of claim 61, wherein the first and second sheets are coupled together by a resistor.

74. (New) The electrochemical cell of claim 61, further comprising a separator between the first sheet and the second sheet.

75. (New) The electrochemical cell of Claim 61, wherein the electrochemical cell is a metal hydride cell.

76. (New) The electrochemical cell of Claim 61, wherein the electrochemical cell is a nickel metal hydride cell.

77. (New) The electrochemical cell of Claim 61, wherein the electrochemical cell is a fuel cell.

78. (New) The electrochemical cell of Claim 61, wherein the electrode is a negative electrode.

79. (New) The electrochemical cell of Claim 61, wherein the high energy density metal is configured to provide self-charging for the electrochemical cell.

80. (New) The electrochemical cell of Claim 61, wherein the high energy density metal is configured to provide increased energy capacity for the electrochemical cell.

81. (New) The electrochemical cell of Claim 61, wherein the high energy density metal is configured to provide increased peak power for the electrochemical cell.

82. (New) A method of producing an electrode for an electrochemical cell, the electrode comprising a hydrogen storage alloy and a high energy density metal, the method comprising:

sintering or forming with a binder a high energy density metal into a first sheet;

forming a second sheet comprising a hydrogen storage alloy; and

pressing the first and second sheets together to form the electrode.

83. (New) The method of claim 82, wherein porosity is controlled by using polytetrafluoroethylene as a binder.

84. (New) The method of claim 82, further comprising forming a third sheet comprising an electrocatalyst and the step of pressing the first and second sheets together further comprises pressing the third sheet together with the first and second sheets.

85. (New) The method of claim 82, further comprising pressing a current collector into the first sheet or the second sheet.